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| 10/667,303 | 09/23/2003 | Jean Berthier | 242821US2 | 9278 |

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| EXAMINER |
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SOOHOO, TONY GLEN

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| ART UNIT | PAPER NUMBER |
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1723

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,303

Applicant(s)

BERTHIER ET AL.

Examiner

Tony G. Soohoo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10-31-03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim interpretation

2. Claim 1 recites a “means of displacing [particles].. under the action of a force.. [upon the] particles present in the chamber”, this limitation has been afforded the broadest reasonable interpretation with regards to the “displacing means” structure itself. This is evidenced by the fact that it encompasses various differing structures as shown by the particular structures of claims 2-8 which include magnetic, electromagnetic and dielectrophoretic forces
3. Also, whereas the “particles present in the chamber” has not been positively claimed (and only referred to in a operational sense as an element which is acted upon by the displacement means,) the recitation of claim 1 is read as being directed a claim to the means for displacing only. The recitation of the type of particles i.e., another introduced bead (claim 2) or a molecule to the material itself (claim 5) is deemed as directed to functional operation of the positively claimed “displacing means”.

Accordingly, particles of paramagnetic beads or molecules of the fluid in which the device acts upon has been fully considered and deemed as not being part of the invention as is now claimed within the form presented in the claims.

MPEP 2115 states:

2115 [R-2] Material or Article Worked Upon by Apparatus

**MATERIAL OR ARTICLE WORKED UPON DOES NOT LIMIT
APPARATUS CLAIMS**

"Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

In *In re Young*, a claim to a machine for making concrete beams included a limitation to the concrete reinforced members made by the machine as well as the structural elements of the machine itself. The court held that the inclusion of the article formed within the body of the claim did not, without more, make the claim patentable.

In *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967), an apparatus claim recited "[a] taping machine comprising a supporting structure, a brush attached to said supporting structure, said brush being formed with projecting bristles which terminate in free ends to collectively define a surface to which adhesive tape will detachably adhere, and means for providing relative motion between said brush and said supporting structure while said adhesive tape is adhered to said surface." An obviousness rejection was made over a reference to Kienzle which taught a machine for perforating sheets. The court upheld the rejection stating that "the references in claim 1 to adhesive tape handling do not expressly or impliedly require any particular structure in addition to that of Kienzle." The perforating device had the structure of the taping device as claimed, the difference was in the use of the device, and "the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself."

Note that this line of cases is limited to claims directed to machinery which works upon an article or material in its intended use. It does not apply to product claims or kit claims (i.e., claims directed to a plurality of articles grouped together as a kit).

4. It is noted that claims 3,4, and 6 the placement of the ferromagnetic core is recited as being at the level of the central point does not point out that the core is at the central point. It is noted that the recitation of the magnetic core does not point out the

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functional cooperation of the core, thereby the core maybe deemed as also being an agitator element movable along the plane level of the central point.

5. Claim 6 points out an operation of the electrode pairs however does not positively claim any structure to permit the alternate current and operation as recited, thus is deemed as being directed a functional recitation to the operation of the positively claimed electrodes.

6. Claim 8 describes the operation of the alternating current to the electrodes, however since the claim does not positively claim the structure to produce the alternating current as part of the invention, the recitation is deemed as directed to the intended use an operation of the electrodes.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1-2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by

Ruffer 4752138

The claims are so broad and imprecise, the reference is readable upon the claim as follows:

Ruffer teaches a means having electromagnetic coils 5, and ferromagnetic core 4 at the level of the central point of the container and operates in which produces a rotating magnetic field which inherently couple with a central core rotor 3 at the central point. The rotor rotates which thereby causes a fluid flow field force which causes the particles in the liquid to move with radial fluctuations in relation the central point of the magnetic rotor. Additionally, note that there also comprise a rotating magnetic field provided by the coils, this would also be able to structurally function to operate particles in the liquid which are affected by a magnetic field.

With regards to claim 2, the particles to be mixed in the liquid chamber such as bead particles, this feature has been afforded little patentable distinction as being directed to the operational functional environment of the means for displacing the particles. It is further noted that the electromagnetic field produced is fully capable to provide a fluctuation motion to move any paramagnetic particle or element suspended in the liquid in a direction to the central point.

9. Claim 1-3 and 4 are rejected under 35 U.S.C. 102(a) as being anticipated by Gebrian 6382827.

The claims are so broad and imprecise, the reference is readable upon the claim as follows:

Gebrian teaches a means having a permanent magnetic 12, and ferromagnetic core element 16, as seen especially in figures 4-4B, at the level of a central point of the container. The device operates in which the magnet 12 produces a rotating magnetic field which inherently couple with a central core rotor 16 in which both are at the level of

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the rotation of the magnetic field and about the rotating magnetic field. The rotor 16 rotates which thereby causes a fluid flow field force which causes the particles in the liquid to move with radial fluctuations in relation the central point of the magnetic rotor. Additionally, note that there also comprises a rotating magnetic field provided by the permanent magnet 12, this would also be able to structurally function to operate particles in the liquid which are affected by a magnetic field.

With regards to claim 2, the particles to be mixed in the liquid chamber such as bead particles, this feature has been afforded little patentable distinction as being directed to the operational functional environment of the means for displacing the particles. It is further noted that the electromagnetic field produced is fully capable to provide a fluctuation motion to move any paramagnetic particle or element suspended in the liquid in a direction to the central point.

10. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 61138125.

The JP '125 reference teaches a means having coils 2, and ferromagnetic core 3 which produces a rotating magnetic field by the A/C supply 1 which causes an electromotive force in the electrolyte solution which thereby causes a force which causes the particles of water molecules in the liquid to move with radial fluctuations in relation to the central point of the rotating magnetic field.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al, US 2003/0031090 filed on Aug 7, 2001 in view of JP 62298434.

The Ho et al reference teaches the use of electrodes 32, 42, about a container 26, or channel 20 in various shapes [0030] in which the electrodes in pairs [paragraph 0040] or by magnets [0041] are operated to provide a field 22, electric or magnetic field [0035] [0041], which provides a displacement of the material molecules of the fluid by dielectrophoretic effect, see paragraph 0025 in which there may also be an obstacle 30 [0032] to enhance joining and rejoining the flow. Also the electric field is generated by AC and is operated in the range including 1kHz and 100kHz [[0035].

The Ho et al (Ho) reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of having a rotating field.

The JP '125 reference teaches a means having coils 2, and ferromagnetic core 3 which produces a rotating magnetic field by the A/C supply 1 which causes an electromotive force in the electrolyte solution which thereby causes a force which causes the particles of water molecules in the liquid to move with radial fluctuations in relation to the central point of the rotating magnetic field.

In view of the teaching of the JP '434 reference that one may create an electromotive force by using a rotating magnetic field, about a chamber, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the chamber and configuration of the electrodes pairs to provide a rotating magnetic field so as to better process an electrolyte solution and bonding of water molecules so that a solute is easily dissolved as taught by the JP '434 reference.

With regards to claim 6, note that the Ho reference teaches the use of an obstacle(s) 30 in the plane of the magnetic field. Ho discloses all of the recited subject matter as defined within the scope of the claims with the exception of having a dielectric core in the chamber as an obstacle in the alternating time-varying force field.

Absent any unexpected results, as evidenced by test results, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the obstacle 30 of the Ho et al reference as modified by the JP '434 reference with any appropriate material such as a dielectric material so as to produce an effective obstacle for the flow to move about thereby providing a better mixing of material.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tatevosian et al 4720035, Kreuwel et al 6764859, Lovness et al 3848363, Braden et al 5911503, Worth 3384353, Hershler 3219318, Lovness 3892908, and Osterheld 2549121, and JP 62221427.

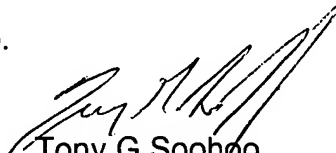
14. Zipperer 355497 shows that it is known to provide a rotating magnetic field by either the use of coils or by a rotating permanent magnet.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7:00 AM - 5:00 PM, Tues. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tony G Soohoo
Primary Examiner
Art Unit 1723
